

§ 101.107

47 CFR Ch. I (10–1–99 Edition)

every reasonable effort to identify and resolve the conflict; and

(3) Licensees are encouraged to resolve the harmful interference prior to contacting the Commission.

[61 FR 26677, May 28, 1996, as amended at 63 FR 68983, Dec. 14, 1998]

§ 101.107 Frequency tolerance.

(a) The carrier frequency of each transmitter authorized in these services must be maintained within the following percentage of the reference frequency except as otherwise provided in paragraph (b) of this section or in the applicable subpart of this part (unless otherwise specified in the instrument of station authorization the reference frequency will be deemed to be the assigned frequency):

Frequency (MHz)	Frequency Tolerance (percent)		
	All fixed and base stations	Mobile stations over 3 watts	Mobile stations 3 watts or less
928 to 929 ^{2,5}	0.0005	.....	.....
932 to 932.5 ²	0.00015	.....	.....
932.5 to 935 ²	0.00025	.....	.....
941 to 941.5	0.00015	.....	.....
941.5 to 944	0.00025	.....	.....
952 to 960 ⁷ .....	.....	.....	.....
944.0 to 1,000	0.0005	0.0005	0.0005
1,850 to 1,990	0.002	.....	.....
2,110 to 2,200	0.001	.....	.....
2,200 to 12,200 ^{1,3} ..	0.005	0.005	0.005
2,450 to 2,500	0.001	.....	.....
3,700 to 4,200	0.005	.....	.....
5,925 to 6,875	0.005	.....	.....
10,550 to 11,700	0.005	.....	.....
12,200 to 13,250 ⁶ ..	0.005	.....	.....
12,200 to 17,700	0.03	0.03	0.03
17,700 to 18,820 ^{4,5} ..	0.003	.....	.....
18,820 to 18,920 ^{4,5} ..	0.001	.....	.....
18,920 to 19,700 ^{4,5} ..	0.003	.....	.....
19,700 to 27,500 ⁶ ..	0.03	.....	.....
27,500 to 28,350	0.001	.....	.....
29,100 to 29,250	0.001	.....	.....
31,000 to 31,075 ⁸ ..	0.001	.....	.....
31,075 to 31,225 ⁸ ..	0.001	.....	.....
31,225 to 31,300 ⁸ ..	0.001	.....	.....
31,300 to 40,000 ⁸ ..	0.03 ⁹	0.03	0.03

¹Applicable only to common carrier LTTS stations. Beginning Aug. 9, 1975, this tolerance will govern the marketing of LTTS equipment and the issuance of all such authorizations for new radio equipment. Until that date new equipment may be authorized with a frequency tolerance of .03 percent in the frequency range 2,200 to 10,500 MHz and .05 percent in the range 10,500 MHz to 12,200 MHz, and equipment so authorized may continue to be used for its life provided that it does not cause interference to the operation of any other licensee.

²Equipment authorized to be operated on frequencies between 890 and 940 MHz as of Oct. 15, 1956, must maintain a frequency tolerance within 0.03 percent subject to the condition that no harmful interference is caused to any other radio station.

³See subpart G of this part for the stability requirements for transmitters used in the Digital Electronic Message Service.

⁴Existing authorized equipment with a frequency tolerance of $\pm 0.03\%$ may be marketed until December 1, 1988. Equipment installed and operated prior to December 1, 1988 may continue to operate after that date with a minimum frequency tolerance of $\pm 0.03\%$. However, the replacement of equipment requires that the $\pm 0.003\%$ tolerance be met.

⁵For remote stations with 12.5 KHz bandwidth, the tolerance is $\pm 0.00015\%$.

⁶Applicable to private operational fixed point-to-point microwave only. For exceptions see § 101.147.

⁷For private operational fixed point-to-point microwave systems, with a channel greater than or equal to 50 KHz bandwidth, $\pm 0.0005\%$; for multiple address master stations, regardless of bandwidth, $\pm 0.00015\%$; for multiple address remote stations with 12.5 KHz bandwidths, $\pm 0.00015\%$; for multiple address remote stations with channels greater than 12.5 KHz bandwidth, $\pm 0.0005\%$.

⁸For stations authorized prior to March 11, 1997, and for non-Local Multipoint Distribution Service stations authorized pursuant to applications refilled no later than June 26, 1998, the transmitter frequency tolerance shall not exceed 0.030 percent.

⁹Equipment authorized to be operated in the 38,600–40,000 MHz band is exempt from the frequency tolerance requirement noted in the above table.

(b) Heterodyne microwave radio systems may be authorized at a somewhat less restrictive frequency tolerance (up to .01 percent) to compensate for frequency shift caused by numerous repeaters between base band signal insertion. Where such relaxation is sought, applicant must provide all calculations and indicate the desired tolerance over each path. In such instances the radio transmitters and receivers used must individually be capable of complying with the tolerance specified in paragraph (a) of this section. Heterodyne operation is restricted to channel bandwidth of 10 MHz or greater.

(c) As an additional requirement in any band where the Commission makes assignments according to a specified channel plan, provisions must be made to prevent the emission included within the occupied bandwidth from radiating outside the assigned channel at a level greater than that specified in § 101.111.

[61 FR 26677, May 28, 1996, as amended at 62 FR 23167, Apr. 29, 1997; 63 FR 6105, Feb. 6, 1998; 63 FR 9448, Feb. 25, 1998; 63 FR 14039, Mar. 24, 1998; 63 FR 36611, July 7, 1998]

§ 101.109 Bandwidth.

(a) Each authorization issued pursuant to these rules will show, as the emission designator, a symbol representing the class of emission which must be prefixed by a number specifying the necessary bandwidth. This figure does not necessarily indicate the bandwidth actually occupied by the emission at any instant. In those cases where part 2 of this chapter does not provide a formula for the computation